

WHAT IS CLAIMED IS:

1. A method of formulating an enzyme cocktail, said method comprising the steps of:
 - (a) identifying a stain and/or soil for which removal via enzyme hydrolysis is sought;
 - (b) examining the stain and/or to determine a level of presence of each enzyme-hydrolysable component of said stain and/or soil;
 - (c) screening multiple enzymes to determine which enzyme demonstrates a highest activity against each enzyme-hydrolysable component in said stain and/or soil; and
 - (d) incorporating one or more enzymes demonstrating the highest activity against each enzyme-hydrolysable component in said stain and/or soil into said cocktail;
 - (e) optionally, incorporating one or more enzymes demonstrating the highest activity against each enzyme-hydrolysable component in said stain and/or soil in an amount corresponding to the level of presence of said enzyme-hydrolysable component in said stain and/or soil.
2. A protease cocktail for removing a protein-comprising stain and/or soil, said cocktail comprising one or more enzymes adapted to remove one or more proteins present in said stain and/or; wherein said enzymes are incorporated into said cocktail in an amount corresponding to the content of a target protein in said stain and/or soil.
3. A carbohydrase cocktail for removing a carbohydrate-comprising stain and/or soil, said cocktail comprising one or more enzymes adapted to remove one or more carbohydrates present in said stain and/or soil; wherein said enzymes are incorporated into said cocktail in an amount corresponding to the content of a target carbohydrate in said stain and/or.
4. A lipase cocktail for removing a lipid-comprising stain and/or soil, said cocktail comprising one or more enzymes adapted to remove one or more lipids present in said stain and/or soil; wherein said enzymes are incorporated into said cocktail in an amount corresponding to the content of a target lipid in said stain and/or soil.
5. A phospholipase cocktail for removing phospholipid-comprising stain and/or soil, said cocktail comprising one or more enzymes adapted to remove one or more phospholipids present in said stain and/or soil; wherein said enzymes are incorporated into said

cocktail in an amount corresponding to the content of a target phospholipid in said stain and/or soil.

6. An enzyme cocktail for removing protein-comprising, carbohydrate-comprising, lipid-comprising and phospholipid-comprising stains and/or soils, said cocktail comprising a cocktail selected from the group consisting of: the protease cocktail according to claim 2, the carbohydrase cocktail according to claim 3, the lipase cocktail according to claim 4, the phospholipase cocktail according to claim 5 and combinations thereof.

7. A detergent composition comprising a cocktail selected from the group consisting of: the protease cocktail according to claim 2, the carbohydrase cocktail according to claim 3, the lipase cocktail according to claim 4, the phospholipase cocktail according to claim 5, the enzyme cocktail according to claim 6 and combinations thereof.

8. A protease cocktail for removing an egg-based stain and/or soil, said cocktail comprising at least two proteases selected from the group consisting of:

- (a) a protease adapted to hydrolyze casein at a rate of at least about 0.1% proteolytic activity per mg of active protein, of an enzyme standard;
- (b) a protease adapted to hydrolyze phosvitin and/or lipovitellin at a rate of at least about 0.1% proteolytic activity per mg of active protein, of an enzyme standard;
- (c) a protease adapted to hydrolyze ovalbumin at a rate of at least about 0.1% proteolytic activity per mg of active protein, of an enzyme standard; and
- (d) combinations thereof;

wherein a ratio between any two of said proteases is from about 1000:1 to about 1:1000, based on a weight of active protein.

9. An enzyme cocktail for removing an egg-based stain and/or soil, said cocktail comprising:

- (a) a lipase adapted to hydrolyze triglyceride and/or diglyceride at a rate of at least about 0.1% activity per mg of active protein, of an enzyme standard;
- (b) a phospholipase adapted to hydrolyze phosphatidyl choline or lysophosphatidyl choline at a rate of at least about 0.1% activity per mg of active protein, of an enzyme standard; and
- (c) optionally, the protease cocktail of claim 8;

wherein a ratio between any two of said enzymes is from about 1000:1 to about 1:1000, based on a weight of active protein.

10. A protease cocktail for removing a grass-based stain and/or soil, said cocktail comprising:

- (a) a protease adapted to hydrolyze D-ribulose 1,5-diphosphate carboxylase at a rate of at least about 0.1% proteolytic activity per mg of active protein, of an enzyme standard;
- (b) a protease adapted to hydrolyze one or more chlorophyll-binding proteins at a rate of at least about 0.1% proteolytic activity per mg of active protein, of an enzyme standard; and
- (c) a protease adapted to hydrolyze ATP synthase at a rate of at least about 0.1% proteolytic activity per mg of active protein, of an enzyme standard;

wherein a ratio between any two of said proteases is from about 1000:1 to about 1:1000, based on a weight of active protein;

wherein said chlorophyll-binding proteins are selected from the group consisting of CP47, CP43, CP29, CP27, CP24 and combinations thereof.

11. An enzyme cocktail for removing a grass-based stain and/or soil, said cocktail comprising:

- (a) a lipase adapted to hydrolyze triglyceride and/or diglyceride at a rate of at least about 0.1% activity per mg of active protein, of an enzyme standard;
- (b) a pectinase adapted to hydrolyze poly-D-galacturonic acid methyl ester at a rate of at least about 0.1% activity per mg of active protein, of an enzyme standard;
- (c) a hemicellulase adapted to hydrolyze hemicellulose, xyloglucans, xylans and combinations thereof at a rate of at least about 0.1% activity per mg of active protein, of an enzyme standard;
- (d) a cellulase adapted to hydrolyze cellulose and/or carboxy methyl cellulose at a rate of at least about 0.1% activity per mg of active protein, of an enzyme standard; and
- (e) optionally, the protease cocktail of claim 10;

wherein a ratio between any two of said enzymes is from about 1000:1 to about 1:1000, based on a weight of active protein.

12. A detergent composition comprising the protease cocktail according to claim 8, wherein said protease cocktail is present at a level of from about 0.00001% to about 5% by weight of pure active protein of said protease cocktail, based on the total weight of said detergent composition.

13. A detergent composition comprising the protease cocktail according to claim 10, wherein said protease cocktail is present at a level of from about 0.00001% to about 5% by weight of pure active protein of said protease cocktail, based on the total weight of said detergent composition.

14. A detergent composition comprising the protease cocktail according to claim 8 and the protease cocktail according to claim 10, wherein said protease cocktails are present at a level of from about 0.00001% to about 5% by weight of pure active protein of said protease cocktail, based on the total weight of said detergent composition

15. A detergent composition comprising the enzyme cocktail according to claim 9, wherein said cocktail is present at a level of from about 0.00001% to about 5% by weight of pure active enzyme of said cocktail, based on the total weight of said detergent composition.

16. A detergent composition comprising the enzyme cocktail according to claim 11, wherein said cocktail is present at a level of from about 0.00001% to about 5% by weight of pure active enzyme of said cocktail, based on the total weight of said detergent composition.

17. A detergent composition comprising the enzyme cocktail according to claim 9 and the enzyme cocktail according to claim 11; wherein said cocktails are present at a level of from about 0.00001% to about 5% by weight of pure active enzyme of said cocktails, based on the total weight of said detergent composition.